

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY

REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P205-0047WO	FOR FURTHER ACTION	
	See Form PCT/IPEA/416	
International application No. PCT/JP2005/003824	International filing date (<i>day/month/year</i>) 01.03.2005	Priority date (<i>day/month/year</i>) 03.03.2004
International Patent Classification (IPC) or national classification and IPC Int.Cl. H04N1/41 (2006.01)		
Applicant CANON KABUSHIKI KAISHA		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> a total of <u>7</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input checked="" type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>

Date of submission of the demand 28.12.2005	Date of completion of this report 22.06.2006	
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Box No. I Basis of the report

1. With regard to the **language**, this report is based on:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
 - international search (Rules 12.3(a) and 23.1(b))
 - publication of the international application (Rule 12.4(a))
 - international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 - the international application as originally filed/furnished
 - the description:

pages 1-28 _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____
 - the claims:

Nos. 2-4, 6, 8-10, 12, 14-16 _____ as originally filed/furnished

Nos.* _____ as amended (together with any statement) under Article 19

Nos.* 1, 5, 7, 11, 13, 17 _____ received by this Authority on 2006.01.25

Nos.* _____ received by this Authority on _____
 - the drawings:

figs 1-5 _____ as originally filed/furnished

sheets/figs * _____ received by this Authority on _____

sheets/figs * _____ received by this Authority on _____
 - a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:
 - the description, pages _____
 - the claims, Nos. _____
 - the drawings, sheets/figs _____
 - the sequence listing (*specify*): _____
 - any table(s) related to sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages _____
 - the claims, Nos. _____
 - the drawings, sheets/figs _____
 - the sequence listing (*specify*): _____
 - any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

the entire international application
 claims Nos. 5, 6, 11, 12 and 17

because:

the said international application, or the said claims Nos. _____ relate to the following subject matter which does not require an international preliminary examination (*specify*):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____ are so unclear that no meaningful opinion could be formed (*specify*):

the claims, or said claims Nos. 5, 6, 11, 12 and 17 _____ are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

See Box No. VIII

no international search report has been established for said claims Nos. _____

a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:
 furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
 furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
 pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b) and 13ter.2.

a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-bis of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

See Supplemental Box for further details.

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-4, 7-10, 13-16</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-4, 7-10, 13-16</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-4, 7-10, 13-16</u>	YES
	Claims	_____	NO

2. Citations and explanations(Rule 70.7)

D1:JP 6-291991 A

D2:JP 2001-27986 A

D3:JP 2005-72831 A (MINOLTA CO LTD) 2005.3.17 & US2005/57778 A see Box No. VI

The subject matter of claim 1, 7 and 13 are neither disclosed in any of the documents above, nor obvious to a person skilled in the art.

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Box No. VI Certain documents cited

1. Certain published documents (Rules 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2003-298383 [E A]	17.03.2005	22.08.2003	

2. Non-written disclosures (Rules 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

"For example, although the code processing unit 310a is provided exclusively for the scanner 301, the actual processing is executed by any of the hardware chips and not by software. The same holds true for the scanner 301 in regard to the code processing unit 310b exclusively for the printer 302. Accordingly, in a case where processing of data that has been read in by the scanner and processing of data necessary when print processing is executed conflict in the JBIG encoder/decoder chip 402 as when copying is performed, whichever processing request was earliest is processed first. It should be noted that since processing speed using hardware is much faster than that using software, waiting time is very short" (DESCRIPTION page 17, line 7-20)

With reference to Fig.4, the JBIG encoder/decoder chip 402 is shared between the task by scanner 301 and printer 302, both of which has a high priority.

It is contradictory to the subject matter of claim 1 indirectly quoted by claim 5, 6 as well as claim 7 quoted by claim 11, 12, and 17.

Therefore, claim 5, 6, 11, 12 and 17 are not supported by the description as required by Article 6 PCT.

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CLAIMS

1. (Amended) An image processing apparatus comprising:
 - a plurality of code converting units for executing coding and decoding of image data;
 - 5 a plurality of request-source task units for requesting any of said plurality of code converting units to perform a code conversion of image data, the number of task units being greater than the number of code converting units and having priorities that
 - 10 depend on their respective tasks; and
 - an assigning unit for assigning one of said plurality of code converting units to a processing request from one of said plurality of request-source task units having a high priority and, if there is an
 - 15 idle code converting unit among the plurality of code converting units, assigning the idle code converting unit to a processing request from one of said plurality of request-source task units having a low priority.
- 20 2. The apparatus according to claim 1, wherein said code converting units have one-to-one correspondence to the request-source task units having the high priority; and
- 25 said assigning unit assigns the corresponding code processing units in accordance with the processing requests from the request-source task units having the high priority.

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3. The apparatus according to claim 1 or 2, wherein code converting units, the number of which is smaller than the number of the request-source task units having the low priority, correspond to these request-
5 source task units having the low priority; and
said assigning unit assigns said code converting units in a prescribed order to the processing requests from the request-source task units having the low priority.
- 10 4. The apparatus according to claim 3, wherein said code converting units are constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by
15 hardware; and
said assigning unit assigns said software-implemented code converting units to the processing requests of the request-source task units.
5. (Amended) The apparatus according to claim 4,
20 wherein said request-source task units having the high priority are classified into a first unit group processed by said software-implemented code converting units and a second unit group processed by said hardware-implemented code converting units via said
25 software-implemented code converting units.
6. The apparatus according to claim 5, wherein said hardware-implemented code converting units are adapted

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so as to be used jointly by the request-source task units of said second unit group.

7. (Amended) An image processing method comprising:

a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit of a plurality of request-source task units the number of which is greater than the number of a plurality of code converting units and having priorities that depend on their respective tasks,
5 said code converting units executing coding and decoding of image data;

a priority processing determination step of receiving the processing request and determining whether the processing request issued by the request-source task unit should be processed with priority;
15 and

an assigning step of assigning one of said plurality of code converting units to a processing request from one of said plurality of request-source task units determined to have a high priority and, if there is an idle code processing unit among the code converting units, assigning the idle code processing unit to a processing request from one of said plurality of request-source task units determined to
20 have a low priority.

8. The method according to claim 7, wherein said code converting units have one-to-one correspondence to the

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request-source task units having the high priority;
and

 said assigning step assigns the corresponding
 code processing units in accordance with the
5 processing requests from the request-source task units
 having the high priority.

9. The method according to claim 7 or 8, wherein code
 converting units, the number of which is smaller than
 the number of the request-source task units having the
10 low priority, correspond to these request-source task
 units having the low priority; and

 said assigning step assigns said code converting
 units in a prescribed order to the processing requests
 from the request-source task units having the low
15 priority.

10. The method according to claim 9, wherein said
 code converting units are constituted by software-
 implemented code converting units for executing code
 conversion by software and hardware-implemented code
20 converting units for executing code conversion by
 hardware; and

 said assigning step assigns said software-
 implemented code converting units to the processing
 requests of the request-source task units.

25 11. (Amended) The method according to claim 10,
 wherein said request-source task units having the high
 priority are classified into a first unit group

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processed by said software-implemented code converting units and a second unit group processed by said hardware-implemented code converting units via said software-implemented code converting units.

5 12. The method according to claim 11, wherein said hardware-implemented code converting units are adapted so as to be used jointly by the request-source task units of said second unit group.

13. (Amended) An image processing program comprising:

10 program code for executing a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit of a plurality of request-source task units the number of which is greater than the number of a plurality of

15 code converting units and having priorities that depend on their respective tasks, said code converting units executing coding and decoding of image data;

 program code for executing a priority processing determination step of receiving the processing request and determining whether the processing request issued by the request-source task unit should be processed with priority; and

20 program code for executing an assigning step of assigning one of said code converting units to a processing request from one of said plurality of request-source task units determined to have a high priority and, if there is an idle code processing unit

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among the code converting units, assigning the idle code processing unit to a processing request from one of said plurality of request-source task units determined to have a low priority.

5 14. The program according to claim 13, wherein said code converting units have one-to-one correspondence to the request-source task units having the high priority; and

the program code for executing said assigning
10 step includes code for assigning the corresponding code processing units in accordance with the processing requests from the request-source task units having the high priority.

15 15. The program according to claim 7 or 8, wherein code converting units, the number of which is smaller than the number of the request-source task units having the low priority, correspond to these request-source task units having the low priority; and

the program code for executing said assigning
20 step includes code for assigning said code converting units in a prescribed order to the processing requests from the request-source task units having the low priority.

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16. The program according to claim 15, wherein said code converting units are constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code 5 converting units for executing code conversion by hardware; and

the program code for executing said assigning step includes code for assigning said software-implemented code converting units to the processing 10 requests of the request-source task units.

17. (Amended) The program according to claim 16, wherein said request-source task units having the high priority are classified into a first unit group processed by said software-implemented code converting 15 units and a second unit group processed by said hardware-implemented code converting units via said software-implemented code converting units.